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36.(Amended) Within a network comprising a plurality of mobile stations that each have a respective maintained a communication link with a respective base transceiver station, a method of enabling communication of a data unit from a first mobile station to a second mobile station, the method comprising:

Q3 grouping at least two of the plurality of mobile stations as members of a private network group;

determining if the first mobile station sending the data unit and the second mobile station scheduled to receive the data unit are both members of the private network group; and

enabling communication of the data unit from the first mobile station to the second mobile station through the respective maintained communication links of the first mobile station and the second mobile station only if they are both members of the private network group.

### REMARKS

#### Objections to the Specification

The specification has been amended on page 1, lines 3 and 5, to update the status of the Brisebois *et al* application.

#### Claim Objections

The expression "An apparatus" previously found on line 1 of claims 2 to 10, 13 to 17, and 19 to 21 has been replaced with "The apparatus".

The expression "A computing apparatus" previously found on line 1 of claim 18 has been replaced with "The apparatus".

The expression "A private network" previously found on line 1 of claims 23 to 27 has been replaced with "The private network".

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The expression "A wireless network" previously found on line 1 of claims 29 to 32 and 34 has been replaced with "The wireless network".

The expression "An interface apparatus" previously found on line 1 of claims 33 and 35 has been replaced with "The interface apparatus".

The second claim 35 has been renumbered as "36" to properly number the claims.

The expression "a data unit" previously found in line 9 of claim 1, line 9 of claim 11, line 10 of claim 12, line 13 of claim 22, line 11 of claim 28, line 16 of claim 32, and line 8 of claim 34 has been replaced with "the data unit".

The Examiner has suggested that the expression "a private network group" found on lines 5 and 6 of claim 2, lines 6 and 7 of claim 3, lines 4 and 5 of claim 5, lines 4 and 5 of claim 13, and line 5 of claim 23 should be replaced with "the private network group". Applicant notes that the expression "a private network group" forms part of the larger expression "means for grouping at least two of the plurality of mobile stations as members of a private network group" found in claims 1, 13, and 22. Applicant submits that such means plus function language is properly referred to in dependent claims 2, 3, 5, 13, and 23 as "the means for grouping at least two of the plurality of a mobile stations as members of a private network group" and no amendments are necessary.

The expression "a type" previously found on line 5 of claim 8 and line 5 of claim 21 has been replaced with "the type".

The expression "digital data" previously found on line 4 of claim 33 and line 4 of claim 35 has been replaced with "the digital data".

#### **Claim Rejections – 35 U.S.C. 112**

In paragraph 4 of the Detailed Action, the Examiner has rejected claims 6 to 7, 13 to 20, 22 to 27, 29, and 33 to 35 under 35 U.S.C. 112, second paragraph, as being indefinite for failing

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to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

#### Claim 6

The expressions "the first group" and "the second group" previously found on lines 6 and 8, respectively, of claim 6 have been replaced with "the first set" and "the second set". The Examiner is respectfully requested to withdraw his 35 U.S.C. 112 rejection of claim 6.

#### Claim 10

The Examiner has also objected to the use of the wording "the apparatus" found on line 10 of claim 6 stating that it is not "clear as to whether it is reciting the apparatus of claim 1 line 1 or the second apparatus of claim 6 line 9". The wording "the apparatus" found on line 10 of claim 6 has been replaced with "the apparatus for controlling data unit communications" to clearly refer to the apparatus of claim 1, line 1. The Examiner is respectfully requested to withdraw his 35 U.S.C. 112 rejection of claim 10.

#### Claims 13 and 19

Claims 13 and 19 have been amended to provide proper antecedent basis for expressions found in these claims. In particular, the expression "at least two of the plurality of telephone stations" previously found on lines 3 to 4 of claim 13 and 5 to 6 of claim 19 and has been replaced with "at least two telephone stations of the at least one mobile telephone station and the at least one fixed wire telephone station". Antecedent basis for this expression is found in amended independent claim 12. Antecedent basis for the expression "the at least two telephone stations" of lines 5 and 6 of claim 13 and line 8 of claim 19 is found on line 6 of amended base claim 12. The Examiner is respectfully requested to withdraw his 35 U.S.C. 112 rejection of claims 13 and 19.

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Claim 14

Claim 14 has been amended to replace the expression "the particular mobile telephone station" previously found on lines 3 to 4 of this claim with "the mobile telephone station of the first set". The Examiner is respectfully requested to withdraw his 35 U.S.C. 112 rejection of claim 14.

Claims 16 and 25

The expressions "the resulting data unit" and "the data network" previously found in claims 16 and 25 have been replaced with "a resulting data unit" and "a data network", respectively. The Examiner is respectfully requested to withdraw his 35 U.S.C. 112 rejection of claims 16 and 25.

Claim 22

Claim 22 has been amended on lines 9 to 11 to clarify the relationship between the "communication links" referred to in these lines and the communication links recited in line 4 of claim 22. Furthermore, the expression "the particular apparatus" previously found on line 10 of claim 22 has been replaced with "a first one of the plurality of apparatus" thereby providing clarity with respect to the use of the expression "a second one" found on line 12 of claim 22. The Examiner is respectfully requested to withdraw his 35 U.S.C. 112 rejection of claim 22.

Claim 23

The expression "the plurality of groups" previously found on line 2 of claim 23 has been replaced with "the private network group". Antecedent support for this new expression is found on line 8 of independent claim 22. The Examiner is respectfully requested to withdraw his 35 U.S.C. 112 rejection of claim 23.

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Claim 24

The expression "first and second ones of the plurality of apparatus" previously found on line 6 of claim 24 has been replaced with "the first and second ones of the plurality of apparatus" thereby making it clear that the "second ones of the plurality of apparatus" are referring to the "second one of the plurality of apparatus" found on line 12 of amended claim 22. The Examiner is respectfully requested to withdraw his 35 U.S.C. 112 rejection of claim 22.

Claim 29

The expressions "the bandwidth" and "the base transceiver stations" previously found on lines 2 to 4 of claim 29 have been replaced with "a bandwidth" and "the at least one base transceiver station", respectively. Proper antecedent basis for the expression "the at least one base transceiver station" is found on line 2 of amended claim 28. The Examiner is respectfully requested to withdraw his 35 U.S.C. 112 rejection of claim 29.

Claim 34

The expression "at least one of the mobile stations" previously found on lines 1 and 2 of claim 34 has been replaced with "at least one of the plurality of mobile stations" making it clear that reference is made to "the plurality of mobile stations" defined on line 4 of claim 28. The Examiner is respectfully requested to withdraw his 35 U.S.C. 112 rejection of claim 34.

Claims 7, 15, 17, 20, 26 to 27, and 35

The Examiner has also rejected claims 7, 15, 17, 20, 26 to 27, and 35 under 35 U.S.C. 112, second paragraph, because they depend on rejected claims 6, 13, 19, 22, and 34. Applicant submits that the 35 U.S.C. 112 rejection of claims 6, 13, 19, 22, and 34 have been addressed and Applicant respectfully requests that the Examiner's 35 U.S.C. 112 rejection of claims 7, 15, 17, 20, 26 to 27, and 35 be withdrawn.

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**Claim Rejections – 35 U.S.C. 102**

In paragraph 6 of the Detailed Action, the Examiner has rejected claims 1, 2, 5, 11, 12 to 14, 22 to 23, 28, and 36 (renumbered) under 35 U.S.C. 102(e) as being anticipated by United States Patent No. 6,445,920 B1 (Pfundstein). Given below is a brief description of the present invention (for the purpose of introduction only) and that of Pfundstein followed by a detailed discussion on how claims 1, 2, 5, 11, 12 to 14, 22 to 23, 28, and 36 (renumbered) are patentable over Pfundstein.

**Overview of an Embodiment of the Invention**

There are currently a large number of devices within corporations and households that require physical wiring in order to communicate with each other. This is particularly evident in an office environment where a "fully connected" computer may have wiring connections to a monitor, a keyboard, a printer, and an essential server. Some computers may further be physically coupled to scanners and/or facsimile machines. To accommodate the needs of a typical office worker, networks have been established in a majority of medium to large office environments to reduce the required number of printers and other possible shared devices such as scanners. These networks further allow for each network computer to be connected to central server in which files and news can be shared, overall backup and security operations for the entire network can be performed, internal e-mail services can be established, and internal and external communications can be controlled. There are a number of key problems with these network configurations at they currently exist. For one, network designs can become extremely complex as more devices are added, resulting in complicated wiring arrangements. In many cases, with the introduction of a third generation of wireless communication networks in which a mobile station can have an always on capability, private networks can now be established between mobile stations. In the context of solving difficulties with wiring connections, the present invention is directed to apparatus, networks, and methods that allow for the establishment of private networks within a wireless environment. In some embodiments, the mobile stations each have a Home Location Registration (HLR) and a unique Internet Protocol (IP) address. The

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mobile stations within a private network are listed within a table stored in the intelligent peripheral by their HLRs. The intelligent peripheral regulates the flow of data units within the wireless network by determining if the sender of the packet and the intended recipient are within the same private network. This allows the wireless private networks to be established having an "always on" capability in which communications links between mobile stations are continually maintained thereby allowing devices, which require continuous links to be maintained, to be used as part of a wireless network.

#### Pfundstein

Pfundstein deals with establishing virtual private networks for mobile subscribers within a mobile-radio network. In particular, Pfundstein provides a solution as to how to set up such a virtual private network by using facilities and devices that already exist in the mobile-radio network thereby removing the need of additional hardware and software. Pfundstein makes use of an HLR to establish calls within the virtual private network. This is quite different than what is contemplated by the present invention in that in the present invention communications links are maintained, and data transfer is simply enabled or disabled while Pfundstein deals with establishing calls (establishing the communications links required for the calls). In Pfundstein one of the advantages of setting up a private network is to allow subscribers to quickly and simply call other subscribers by dialling extension numbers and this has nothing to do with providing wireless network connections to reduce the complex wiring connections within a household or a corporation.

#### Claim 1

Claim 1 recites:

"An apparatus for controlling data unit communications between a plurality of mobile stations, each of the mobile stations having a respective maintained communication link with the apparatus".

Claim 1 has also been amended to recite:

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"means for enabling communication of the data unit from the first mobile station to the second mobile station through the respective maintained communication link of the first mobile station and the second mobile station only if they are both members of the private network group".

As such, communication of the data unit from the first mobile station to the second mobile station is enabled through respective ones of the maintained communication links of the first mobile station and the second mobile station (i.e., through "always-on" connections). This is significantly different than what is contemplated by Pfundstein. In particular, as noted by the Examiner in column 1, lines 14 to 46, Pfundstein recites "a mobile-radio network having a base station for servicing a radio cell and a device for establishing and releasing calls between two mobile subscribers and a fixed network subscriber wherein a virtual private network is installed in the mobile-radio network by forming groups in which different mobile subscribers are logically assigned to each other". With respect, as noted by the Examiner, Pfundstein deals with establishing calls between mobile subscribers and a fixed network subscriber. As such, in Pfundstein prior to the calls being established, the mobile stations are not arranged to maintain communication links with the apparatus (i.e. communications links are established/terminated as needed). As such, in Pfundstein when a mobile subscriber has not established a call there is no connection or communication link with its base station and therefore the system of Pfundstein *et al.* does not have an "always on" option in which a communication link between the subscriber and the base station is maintained and communication of data units between mobile stations is enabled as opposed to requiring the communication links to be established prior to a data unit being sent. As such, Pfundstein lack this "always on" capability which is required by many devices in which their wire connections are replaced by wireless connections. As such, not all of the claim features of claim 1 are disclosed by Pfundstein and the Examiner is respectfully requested to withdraw his 35 U.S.C. 102 rejection of claim 1.

## Claim 2

Claim 2 recites an apparatus for controlling data unit communications as defined in claim 1,:



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"wherein the means for grouping at least two of the plurality of mobile stations as members of a private network group comprises means for listing the HLRs of the at least two mobile stations within a private network group table".

In rejecting claim 2, the Examiner states "Col. 4 line 66 to Col. 5 line 6 which recites that using the mobile subscriber identity number, the home location register HLR determines whether the mobile subscriber is also assigned at least one logic data set which identifies him as a subscriber of a private network". With respect, although Pfundstein discloses a home location register, Pfundstein does not disclose means for listing the HLRs of the at least two mobile stations within a private network group table. Furthermore, claim 2 recites:

"wherein the means for determining if the first and second mobile stations are both members of the private network group comprises means for determining if the HLRs are the first and second mobile stations are both listed within the private network group table".

With respect, Pfundstein does not disclose means for determining if the HLRs of the first and second mobile stations are both listed within a private network group table (see col. 5, lines 42 to 61).

None of the additional features of claim 2 are disclosed by Pfundstein. The Examiner is respectfully requested to withdraw his 35 U.S.C. 102(e) rejection of claim 2.

#### Claim 5

Claim 5 depends from claim 1 and is similar in scope to claim 2 with the exception that the determination of whether the first and second mobile stations are both in the private network is based on whether the node registrations of the first and second mobile stations are both listed within the private network group table, and claim 5 should be allowed for the same reasons as discussed above with reference to claim 2. The Examiner is respectfully requested to withdraw his 35 U.S.C. 102(e) rejection of claim 5.

#### Claim 11

Claim 11 is similar in scope to claim 1 with the exception that it recites a "means for

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disabling communication of the data unit" as opposed to a "means for enabling communication of the data unit" and should be allowed for the same reasons as discussed above with reference to claim 1. Furthermore, claim 11 has been amended to recite:

"means for disabling communication of the data unit from the first mobile station to the second mobile station through the respective maintained communication links of the first mobile station and the second mobile station if they are not both members of the private network group".

In Pfundstein, as discussed above with reference to claim 1, communications links between the mobile stations and the base stations are not maintained but rather established whenever communication between two mobile stations is required. If one of the two mobile stations is not part of the private network there is no communications link that can be established. As such, Pfundstein cannot disable a communication of the data unit from a first mobile station to a second mobile station if they are not both members of the private network group since the communications links would not have been established in the first place if any one of the first and second mobile stations is not part of the private network. The Examiner is respectfully requested to withdraw his 35 U.S.C. 102(e) rejection of claim 11.

#### Claim 12

Claim 12 has been amended and is directed to an "apparatus for controlling data unit communications between a first set of at least one mobile telephone station and a second set of at least one fixed wire telephone station, the at least one mobile station each having a respective maintained communication link with the apparatus." Claim 12 recites claim features which are similar in scope to claim 1 and should be allowed for the same reasons as discussed above with reference to claim 1. Furthermore, Pfundstein deals with establishing communications between mobile telephone stations and has nothing to do with establishing communications between a first set of at least one mobile telephone station and a second set of at least one fixed wire telephone station.

Claim 12 recites:

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"means for grouping at least some of the mobile and fixed wire telephone stations as members of a private network group".

Since Pfundstein does not deal with communications between mobile and fixed wire telephone stations the above feature cannot be disclosed by Pfundstein.

Not all claim features of claim 12 have been disclosed by Pfundstein. The Examiner is respectfully requested to withdraw his 35 U.S.C. 102(e) rejection of claim 12.

#### Claim 13

Claim 13 depends on claim 12 and should be allowed for the same reasons as discussed above with reference to claim 12. Furthermore, the additional features of claim 13 are similar in scope to those of claim 5 and this claim should also be allowed for the same reasons as discussed above with reference to claim 5. The Examiner is respectfully requested to withdraw his 35 U.S.C. rejection of claim 13. Claim 13 has also been amended to refer to claimed features of claim 12 which have been amended.

#### Claim 14

Claim 14 depends on claim 13 and should be allowed for the same reasons as discussed above with reference to claim 13. The Examiner is respectfully requested to withdraw his 35 U.S.C. rejection of claim 14.

#### Claim 22

Claim 22 is similar in scope to claim 1 except that it is directed to a private network as opposed to an apparatus and should be allowed for the same reasons as discussed above with reference to claim 1. The Examiner is respectfully requested to withdraw his 35 U.S.C. 102(e) rejection of claim 22.

#### Claim 23

Claim 23 depends on claim 22 and should be allowed for the same reasons as discussed

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above with reference to claim 22. Furthermore, claim 23 recites additional claim features which are similar in scope to those of claim 5 and should be allowed for the same reasons as discussed above with reference to claim 5. The Examiner is respectfully requested to withdraw his 35 U.S.C. 102(e) rejection of claim 23.

#### Claim 28

Claim 28 has been amended to recite:

"means for enabling communication of the data unit from the first mobile station to the second mobile station through the respective maintained communication links of the first mobile station and the second mobile station only if they are both members of the private network group".

Claim 28 is similar in scope to claim 1 with the exception that it is directed to a wireless network instead of an apparatus and should be allowed for the same reasons as discussed above with reference to claim 1. The Examiner is respectfully requested to withdraw his 35 U.S.C. 102(e) rejection of claim 28.

#### Claim 36

Claim 36 has been amended to recite a method for enabling communication of a data unit, the method including the step of:

"enabling communication of the data unit from the first mobile station to the second mobile station through the respective maintained communication links of the first mobile station and the second mobile station only if they are both members of the private network group".

Claim 36 is similar in scope to claim 1 with the exception that is directed to a method of enabling communication of a data unit as opposed to an apparatus and should be allowed for the same reasons as discussed above with reference to claim 1. The Examiner is respectfully requested to withdraw his 35 U.S.C. 103(e) rejection of claim 36.

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**Claim Rejections – 35 U.S.C. 103**

In paragraph 8 of the Detailed Action, the Examiner has rejected claims 3 to 4, 6 to 8, 15 to 21, 24 to 27, and 30 to 31 under 35 U.S.C. 103(a) as being unpatentable over Pfundstein as applied to claims 1, 2, 5, 11, 12 to 14, 22 to 23, and 28 above and further in view of United States Patent No. 6,215,790 B1 (Voit *et al.*). Given below is a brief discussion of the disclosure of Voit *et al.* followed by a discussion on how claims 3 to 4, 6 to 8, 15 to 21, 24 to 27, and 30 to 31 are patentable over the proposed combination of Pfundstein and Voit *et al.*

**Voit *et al.***

Voit *et al.* deal with providing automatic location of a party called regardless of the location of the party. This prevents the caller from requiring to know or look up multiple numbers and addresses to make multiple calls in order to reach the person being called. The communication service provided by the invention of Voit *et al.* is over any one or more of the Internet data network, land base communication lines and radio links. One of the objectives of the invention of Voit *et al.* is to provide the services in such a manner that they appear seamless across boundaries of the land line network and the radio link network. With respect, this problem solved by Voit *et al.* has nothing to do with the solution contemplated in the present invention which deals with replacing wireline connections with wireless connections, nor with the problem tackled by Pfundstein, which provides connections between mobile stations in a virtual private network.

**Claim 3**

To begin, there are three requirements for establishing a *prima facie* case of obviousness: 1) all features must be present; 2) there must be an expectation of a reasonable chance of success; and 3) there must be some suggestion or motivation in the prior art to combine the references. Given below is a discussion as to how a *prima facie* case of obviousness cannot be established in rejecting claim 3.

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Claim 3 depends on claim 2 which in turn depends on claim 1 and therefore claim 3 includes all of the features of claims 1 and 2 in addition to its additional features. As discussed above with reference to claims 1 and 2, Pfundstein does not teach all of the features of claims 1 and 2 and Applicant submits that Voit *et al.* do not disclose the features of claims 1 and 2 that Pfundstein fails to disclose and therefore requirement 1) for a *prima facie* case of obviousness cannot be satisfied. Furthermore, claim 3 recites:

“wherein the means for grouping at least two of the plurality of mobile stations as members of a private network further comprises means for listing the data addresses of the at least two mobile stations within the private network group table corresponding to their HLRs; and

wherein the means for determining if the first and second mobile stations are both members of the private network group further comprises means for determining the HLR of the second mobile station by looking-up the destination address of the data unit within the private network group table”.

In rejecting claim 3 the Examiner states “Col. 8 lines 59-64 which recite using an enhanced domain name server capable of using a single Domain Name address at an Internet telephone to communicate with another Internet telephone or telephones on the PSTN, both wireline and wireless and col. 11 lines 31-41 which recite the PCS connect to the network through an Internet access server for providing a compatible interface to the respective PCS, modem, ISDN or LAN and protocol conversion and interfacing, as necessary, for two-way data communication over the particular high speed link to the packet data Internet”. With respect, although an address is being used for communication with another Internet telephone or telephones, Voit *et al.* do not disclose a private network group comprising means for listing the data addresses of the at least two mobile stations within the private network group table corresponding to their HLRs. Furthermore, in column 8, lines 59 to 64 and column 11, lines 31 to 41 there is no disclosure of a means for determining if a first and second mobile stations as defined in claim 3 are both members of the private network group by determining the HLR of the second mobile station by looking up the destination address of the data unit within the private network group table. In fact, Voit *et al.* have nothing to do with private networks at all. As such, for these additional reasons requirement 1) for a *prima facie* case of obviousness cannot be

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satisfied.

Not all of the claims features of claim 3 are disclosed by Pfundstein and Voit *et al.*, and there is no reason to believe that combination of Pfundstein and Voit *et al.* produces the claimed invention as claimed in claim 2. As such, requirement 2) for a *prima facie* case of obviousness cannot be satisfied.

Finally, Pfundstein and Voit *et al.* solve two completely different problems which are also completely different than that contemplated by the present invention. As such, there can be no suggestion or motivation in the cited references to combine the references and requirement 3) for a *prima facie* case of obviousness cannot be satisfied.

None of the requirements for a *prima facie* case of obviousness are satisfied. The Examiner is respectfully requested to withdraw his 35 U.S.C. 103(a) rejection of claim 3.

#### Claim 4

Claim 4 depends on claim 3 and should be allowed for the same reasons as discussed above with reference to claim 3. The Examiner is respectfully requested to withdraw his 35 U.S.C. 103(a) rejection of claim 4.

#### Claim 6

Claim 6 depends on claim 5 and should be allowed for the same reasons as discussed above with reference to claim 5. Furthermore, claim 6 contains all of the claim features of claims 1 and 5 and as discussed above with reference to claims 1 and 5, Pfundstein does not disclose all of those claim features. In addition, Applicant submits that Voit *et al.* do not disclose the features of claims 1 and 5 that Pfundstein fails to recite. As such, requirement 1) for a *prima facie* case of obviousness cannot be satisfied. In addition, claim 6 recites:

“wherein the plurality of mobile stations comprises a first set of at least one mobile station within a first cell cluster and a second set of at least one mobile station within a second cell cluster, the node registrations corresponding to the mobile stations of the first set being

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respective Home Location Registrations (HLRs) and the node registrations corresponding to the mobile stations of the second set all being a data address corresponding to a second apparatus; and

wherein the apparatus for controlling data unit communications further comprises means for adding a header to the data unit if the apparatus determines that the first and second mobile stations are both members of the private network group and the second mobile station has the data address corresponding to the second apparatus as its node registration, the header comprising the data address corresponding to the second apparatus as a destination address."

With respect, none of Pfundstein *et al.* and Voit *et al.* disclose HLRs as node registrations for mobile stations of a first set within a first cell cluster and a data address corresponding to a second apparatus as the node registration for mobile stations of a second set within a second cell cluster. Not all of the claim features of claim 6 have been disclosed by Pfundstein and Voit *et al.* and requirement 1) for a *prima facie* case of obviousness cannot be satisfied.

Finally, requirements 2) and 3) for a *prima facie* case of obviousness cannot be satisfied for the same reasons as discussed above with reference to claim 3.

None of the requirements for a *prima facie* case of obviousness are satisfied. The Examiner is respectfully requested to withdraw his 35 U.S.C. 103(a) rejection of claim 6.

#### Claim 7

Claim 7 depends on claim 6 and should be allowed for the same reasons as discussed above with reference to claim 6. The Examiner is respectfully requested to withdraw his 35 U.S.C. 103(a) rejection of claim 7.

#### Claim 8

Claim 8 depends on claim 1 and should be allowed for the same reasons as discussed above with reference to claim 1. In particular, Pfundstein fails to disclose all of the features of claim 1 and Applicant submits that Voit *et al.* do not disclose the features of claim 1 that Pfundstein fails to disclose. As such requirement 1) for a *prima facie* case of obviousness is not satisfied. In addition, requirements 2) and 3) for a *prima facie* case of obviousness cannot be



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satisfied for the same reasons as discussed above with reference to claim 3. None of the requirements for a *prima facie* case of obviousness are satisfied. The Examiner is respectfully requested to withdraw his 35 U.S.C. rejection of claim 8.

#### Claim 15

Claim 15 depends on claim 13 and should be allowed for the same reasons as discussed above with reference to claim 13. In particular, as discussed above, Pfundstein does not disclose all of the claim features of claim 13 and Applicant submits that Voit *et al.* do not disclose the claim features of claim 13 that Pfundstein failed to disclose. As such, requirement 1) for a *prima facie* case of obviousness cannot be satisfied. Furthermore, claim 14 recites:

“the node registration for the fixed wire telephone station of the second set is a data address corresponding to a second apparatus coupled to the fixed wire telephone station”.

In claim 15, the “node registration for the fixed wire telephone station” is listed within a private network group table. With respect, as discussed above, Voit *et al.* have nothing to do with private network groups or private network group tables. As such, Voit *et al.* do not disclose the additional claim features of claim 15. Finally, requirements 2) and 3) for a *prima facie* case of obviousness cannot be satisfied for the same reasons as discussed above with reference to claim 3. None of the requirements for a *prima facie* case of obviousness are satisfied. The Examiner is respectfully requested to withdraw his 35 U.S.C. 103(a) rejection of claim 15.

#### Claims 16 to 20

Claims 16 to 20 depend directly or indirectly on claim 13 and should be allowed for the same reasons as discussed above with reference to claim 13. In particular, Pfundstein does not disclose all of the claim features of claim 13 and Applicant submits that Voit *et al.* do not disclose the features of claim 13 that Pfundstein fails to disclose. As such, not all features of claims 16 to 20 are disclosed by both references and requirement 1) for a *prima facie* case of obviousness cannot be satisfied. In addition, requirements 2) and 3) for a *prima facie* case of obviousness cannot be satisfied for the same reasons as discussed above with reference to claim

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3. None of the requirements for a *prima facie* case of obviousness have been satisfied. The Examiner is respectfully requested to withdraw his 35 U.S.C. 103(a) rejection of claims 16 to 20.

Claim 19 ultimately depends on claim 12 and has been amended to correctly refer to claim features of claim 12 which have been amended.

#### Claim 21

Claim 21 depends on claim 12 and should be allowed for the same reasons as discussed above with reference to claim 12. In particular, Pfundstein fails to disclose all of the claim features of claim 12 and Applicant submits that Voit *et al.* also fail to disclose the features of claim 12 that Pfundstein fails to disclose. As such, requirement 1) for a *prima facie* case of obviousness cannot be satisfied. Furthermore, requirements 2) and 3) for a *prima facie* case of obviousness cannot be satisfied for the same reasons as discussed above with reference to claim 3. The Examiner is respectfully requested to withdraw his 35 U.S.C. 103(a) rejection of claim 21.

#### Claim 24

Claim 24 depends on claim 23 and should be allowed for the same reasons as discussed above with reference to claim 23. In particular, Pfundstein fails to disclose all of the claim features of claim 23 and Applicant submits that Voit *et al.* also fail to disclose the features of claim 23 that Pfundstein fails to disclose. Furthermore, requirements 2) and 3) for a *prima facie* case of obviousness cannot be satisfied for the same reasons as discussed above with reference to claim 3. Furthermore, Applicant submits that the Examiner has not specifically addressed the claim features of claim 24. The Examiner is respectfully requested to withdraw his 35 U.S.C. 103(a) rejection of claim 24.

#### Claims 25 to 27

Claims 25 to 27 depend on claim 22 and should be allowed for the same reasons as discussed above with reference to claim 22. In particular, Pfundstein fails to disclose all of the

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claim features of claim 22 and Applicant submits that Voit *et al.* also fail to disclose the features of claim 22 that Pfundstein fails to disclose. Furthermore, requirements 2) and 3) for a *prima facie* case of obviousness cannot be satisfied for the same reasons as discussed above with reference to claim 3, the Examiner is respectfully requested to withdraw his 35 U.S.C. 103(a) rejection of claims 25 to 27.

#### Claims 30 and 31

Claims 30 and 31 depend on claim 28 and should be allowed for the same reasons as discussed above with reference to claim 28. In particular, as discussed above with reference to claim 28 Pfundstein does not disclose all of the claim features of claim 28 and Applicant submits that Voit *et al.* do not disclose the features of claim 28 that Pfundstein fails to disclose. As such, requirement 1) for a *prima facie* case of obviousness cannot be satisfied. In addition, requirements 2) and 3) for a *prima facie* case of obviousness cannot be satisfied for the same reasons as discussed above with reference to claim 3. The Examiner is respectfully requested to withdraw his 35 U.S.C. 103(a) rejection of claims 30 and 31.

The Examiner has also rejected claims 9 and 29 under 35 U.S.C. 103(a) as being unpatentable over Pfundstein as applied to claims 1 and 28 above and further in view of United States Patent No. 6,505,034 B1 (Wellig). Given below is a brief description of the invention of Wellig followed by a discussion as to how claims 9 and 29 are patentable over Pfundstein and Wellig.

#### Wellig

The invention of Wellig pertains to adaptive allocation of ARQ (Automatic Repeat Request) feedback bandwidth to conserve bandwidth. A data stream scheduler is informed of the status of a PDU (Protocol Description Unit) to be retransmitted at a receiver to allow adaptive scheduling of ARQ feedback bandwidth during data transmission. Information about the receiver is provided in the ARQ feedback PDU and may include an ABIR (ARQ Bandwidth Increase Request) flag. This allows the receiver to adjust the bandwidth to meet the need to

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supply enough bandwidth for message retransmission traffic. Embodiments of the invention of Wellig allow the preservation of bandwidth when missing data units are retransmitted to a bitmap. The invention also allows the decrease in the number of retransmissions of data units missing from a bitmap, and to eliminate the need for algorithms to detect the errors in data units. With respect, this has nothing to do with replacing wire connections with wireless connections in networks or anything to do with the problem solved by the invention of Pfundstein.

#### Claim 9

Claim 9 has been amended to correctly refer to expressions found in base claim 1. Claim 9 depends on claim 1 and should be allowed for the same reasons as discussed above with reference to claim 1. In particular, as discussed above with reference to claim 1 Pfundstein fails to disclose all of the claim features of claim 1 and Applicant submits that Wellig also fails to disclose the claim features of claim 1 which Pfundstein fails to disclose. As such, requirement 1) for a *prima facie* case of obviousness cannot be satisfied. Furthermore, claim 9 recites:

"means for sending a bandwidth request signal prior to enabling communication of the data unit if the second mobile station has insufficient bandwidth capabilities to receive the data unit on the respective maintained communication link of the second mobile station".

With respect, in claim 9 a bandwidth request signal is sent prior to enabling communication of the data unit if the second mobile station has insufficient bandwidth capabilities and this is quite different than what is contemplated by Wellig. In particular, as discussed in the abstract of Wellig, adaptive allocation of ARQ feedback bandwidth to economize on the use of bandwidth is achieved by informing a schedule of the status of received and non-received data units at a receiver during data transmission. In particular, the information about the status of data units at the receiver is provided by an ABIR flag contained in the ARQ feedback message. If there are many unacknowledged messages of, data units, the ABIR flag is set and a scheduler increases to bandwidth to accommodate the traffic of retransmitted messages that were omitted. When the situation has returned to normal, that is, there are minimal messages waiting to be transmitted the ABIR flag is set to null and no added bandwidth is

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assigned. As such, the bandwidth reallocation is performed during transmission of data units and not prior to enabling communication of the data unit.

Finally, there is no reason to believe that incorporating the teachings of Wellig into Pfundstein produces the desired result of the invention as claimed in claim 9 since the bandwidth reallocation is performed during transmission of the data units. Requirement 2) for a *prima facie* case of obviousness is therefore not satisfied. Finally, Wellig deals with economizing bandwidth by reallocating bandwidth during transmission whereas the present invention deals with replacing wire networks with wireless networks and there is no suggestion or motivation in either references to combine these two references. Requirement 3) for a *prima facie* case of obviousness is therefore not satisfied.

None of the requirements for a *prima facie* case of obviousness are satisfied. The Examiner is respectfully requested to withdraw his 35 U.S.C. 103(a) rejection of claim 9.

#### Claim 29

Claim 29 depends on claim 28 and should be allowed for the same reasons as discussed above with reference to claim 28. In particular, Pfundstein fails to disclose all of the claim features of claim 28 and Applicant submits that Wellig also fails to disclose that the claim features of claim 28 that Pfundstein fails to disclose. As such, requirement 1) for a *prima facie* case of obviousness cannot be satisfied. In addition, the additional features of claim 29 are similar in scope to those of claim 9 and are not disclosed by Wellig for the same reasons as discussed above with reference to claim 9. Finally, requirements 2) and 3) for a *prima facie* case of obviousness are not satisfied for the same reasons as discussed above with reference to claim 9. The Examiner is respectfully requested to withdraw his 35 U.S.C. 103(a) rejection of claim 29.

#### Claim 10

In paragraph 10 of the Detailed Action, the Examiner has rejected claim 10 under 35

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U.S.C. 103(a) as being unpatentable over Pfundstein as applied to claim 1 above, and further in view of United States Patent No. 5,793,856 (Nakamura *et al.*). Claim 10 depends on claim 1 and should be allowed for the same reasons as discussed above with reference to claim 1. In particular, Pfundstein fails to disclose all of the features of claim 1 and Applicant submits that Nakamura also fails to disclose the features of claim 1 that Pfundstein fails to disclose. As such, requirement 1) for a *prima facie* case of obviousness cannot be satisfied. The Examiner is respectfully requested to withdraw his 35 U.S.C. 103(a) rejection of claim 10.

Applicant appreciates the Examiner's comment in paragraph 11 of the Detailed Action, which states that claims 32 to 35 are allowable if re-written to overcome the rejections under 35 U.S.C. 112, second paragraph; however, given the amendments to independent claims 1, 11, 12, 22, 28, and 36 and the above discussion Applicant elects not to re-write claims 32 to 35 in independent form at this stage.

Finally, a typographical error and a grammatical error have been corrected on page 6, lines 19 and 20.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached pages are captioned "Version with markings to show changes made".

The Examiner is respectfully requested to pass this application to allowance but, if there are any outstanding issues, the Examiner is respectfully requested to telephone the undersigned.

Respectfully submitted,

By

  
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**VERSION WITH MARKINGS TO SHOW CHANGES MADE****In the Specification**

The paragraph beginning at page 1, line 3 has been amended as follows:

U.S. patent application No. 09/468,119 entitled "APPARATUS AND METHOD FOR WIRELESS DATA COMMUNICATIONS" by Brisebois et al, filed on [the same day as the present application] December 21, 1999, and assigned to the assignee of the present application, discloses and claims subject matter related to that of the present invention and is herein incorporated by reference.

The paragraph beginning at page 6, line 15 has been amended as follows:

The present invention, according to a second broad aspect, is an apparatus similar to the apparatus of the first broad aspect but for controlling data unit communications between a first set of at least one mobile telephone station and a second set of at least one fixed wire telephone station.[.] The mobile station is arranged to maintain a communication link with the apparatus. Some of the telephone stations of the first and second sets are grouped within a private network group with the apparatus controlling the communication of data units in a similar manner to that described above for the first aspect. Preferably, the telephone stations of the first and second groups each have a corresponding node registration which are HLRs for the mobile telephone stations of the first set and a data address corresponding to a second apparatus for the fixed wire telephone stations of the second set.

**In the Claims**

Claims 1 to 34 and both claims which are numbered as claim 35 have been amended as follows:

1.(Amended) An apparatus for controlling data unit communications between a plurality of mobile stations, each of the mobile stations [arranged to maintain] having a respective

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maintained communication link[s] with the apparatus, the apparatus comprising:

means for grouping at least two of the plurality of mobile stations as members of a private network group;

means for determining if a first mobile station sending a data unit and a second mobile station scheduled to receive [a] the data unit are both members of the private network group; and

means for enabling communication of the data unit from the first mobile station to the second mobile station through the respective maintained communication links of the first mobile station and the second mobile station only if they are both members of the private network group.

2.(Amended) [An] The apparatus according to claim 1, wherein each of the mobile stations has a corresponding Home Location Registration (HLR);

wherein the means for grouping at least two of the plurality of mobile stations as members of a private network group comprises means for listing the HLRs of the at least two mobile stations within a private network group table; and

wherein the means for determining if the first and second mobile stations are both members of the private network group comprises means for determining if the HLRs of the first and second mobile stations are both listed within the private network group table.

3.(Amended) [An] The apparatus according to claim 2, wherein each of the mobile stations further has a corresponding data address and the data unit includes a data address corresponding to a desired destination mobile station as a destination address;

wherein the means for grouping at least two of the plurality of mobile stations as members of a private network group further comprises means for listing the data addresses of the at least two mobile stations within the private network group table corresponding to their HLRs;



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and

wherein the means for determining if the first and second mobile stations are both members of the private network group further comprises means for determining the HLR of the second mobile station by looking-up the destination address of the data unit within the private network group table.

4.(Amended) [An] The apparatus according to claim 3, wherein the data addresses are Internet Protocol (IP) addresses.

5.(Amended) [An] The apparatus according to claim 1, wherein each of the mobile stations has a corresponding node registration;

wherein the means for grouping at least two of the plurality of mobile stations as members of a private network group comprises means for listing the node registrations of the at least two mobile stations within a private network group table; and

wherein the means for determining if the first and second mobile stations are both members of the private network group comprises means for determining if the node registrations of the first and second mobile stations are both listed within the private network group table.

6.(Amended) [An] The apparatus according to claim 5, wherein the plurality of mobile stations comprises a first set of at least one mobile station within a first cell cluster and a second set of at least one mobile station within a second cell cluster, the node registrations corresponding to the mobile stations of the first [group] set being respective Home Location Registrations (HLRs) and the node registrations corresponding to the mobile stations of the second [group] set all being a data address corresponding to a second apparatus; and

wherein the apparatus for controlling data unit communications further comprises means for adding a header to the data unit if the apparatus determines that the first and second mobile stations are both members of the private network group and the second mobile station has the data address corresponding to the second apparatus as its node registration, the header

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comprising the data address corresponding to the second apparatus as a destination address.

7.(Amended) [An] The apparatus according to claim 6, wherein the data address corresponding to the second apparatus is an Internet Protocol (IP) address.

8.(Amended) [An] The apparatus according to claim 1 further comprising means for determining if the data unit is of a type requiring limited access, and means for enabling communication of the data unit from the first mobile station to the second mobile station if the data unit is not of [a] the type requiring limited access, even if the first and second mobile stations are not both members of the private network group.

9.(Amended) [An] The apparatus according to claim 1 further comprising means for sending a bandwidth request signal prior to enabling communication of the data unit if the second mobile station has insufficient bandwidth capabilities to receive the data unit on the respective maintained communication link [being maintained] of the second mobile station.

10.(Amended) [An] The apparatus according to claim 1 further comprising means for sending an error signal to the first mobile station if the first and second mobile stations are not both members of the private network group.

11.(Amended) An apparatus for controlling data unit communications between a plurality of mobile stations, each of the mobile stations [arranged to maintain] having a respective communication link[s] with the apparatus, the apparatus comprising:

means for grouping at least two of the plurality of mobile stations as members of a private network group;

means for determining if a first mobile station sending a data unit and a second mobile station scheduled to receive [a] the data unit are both members of the private network group; and

means for disabling communication of the data unit from the first mobile station

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to the second mobile station through the respective maintained communication links of the first mobile station and the second mobile station if they are not both members of the private network group.

12.(Amended) An apparatus for controlling data unit communications between a first set of at least one mobile telephone station and a second set of at least one fixed wire telephone station, the at least one mobile station each having a respective maintained [arranged to maintain a] communication link with the apparatus, the apparatus comprising:

means for grouping at least two telephone stations of the at least one mobile telephone station and the at least one fixed wire telephone station[s] as members of a private network group, at least one of the at least two telephone stations being a mobile telephone station;

means for determining if a first telephone station sending a data unit and a second telephone station scheduled to receive [a] the data unit are both members of the private network group; and

means for enabling communication of the data unit from the first telephone station to the second telephone station, through the respective maintained communication link of the first telephone station if the first telephone station is a mobile telephone station and through the respective maintained communication link of the second telephone station if the second telephone station is a mobile telephone station, only if they are both members of the private network group.

13.(Amended) [An] The apparatus according to claim 12, wherein each of the at least one mobile telephone station and the at least one fixed wire telephone station[s] has a corresponding node registration;

wherein the means for grouping at least two telephone stations of the at least one mobile telephone station and the at least one fixed wire [of the plurality of] telephone station[s]

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as members of a private network group comprises means for listing the node registrations of the at least two telephone stations within a private network group table; and

wherein the means for determining if the first and second telephone stations are both members of the private network group comprises means for determining if the node registrations of the first and second telephone stations are both listed within the private network group table.

14.(Amended) [An] The apparatus according to claim 13, wherein the node registration for the mobile telephone station of the first set is a Home Location Registration (HLR) corresponding to the [particular] mobile telephone station of the first set.

15.(Amended) [An] The apparatus according to claim 13, wherein the node registration for the fixed wire telephone station of the second set is a data address corresponding to a second apparatus coupled to the fixed wire telephone station.

16.(Amended) [An] The apparatus according to claim 13, wherein the means for enabling communication of the data unit from the first telephone station to the second telephone station comprises means for attaching a header to the data unit, the header comprising a data address corresponding to a second apparatus coupled to the second telephone station as a destination address; and means for outputting [the] a resulting data unit to [the] a data network for routing.

17.(Amended) [An] The apparatus according to claim 15, wherein the data address corresponding to the second apparatus is an Internet Protocol (IP) address.

18.(Amended) [A computing] The apparatus according to claim 16, wherein the second apparatus is a server coupled to a Local Area Network (LAN).

19.(Amended) [An] The apparatus according to claim 13, wherein each of the at least one mobile telephone station and the at least one fixed wire telephone station[s] further has a corresponding data address and the data unit includes a data address corresponding to a desired destination mobile station as a destination address;

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wherein the means for grouping at least two [of the plurality of] telephone stations of the at least one mobile telephone station and the at least one fixed wire telephone station[s] as members of a private network group further comprises means for listing the data addresses of the at least two telephone stations within the private network group table corresponding to their node registrations; and

wherein the means for determining if the first and second telephone stations are both members of the private network group further comprises means for determining the node registration of the second telephone station by looking-up the destination address of the data unit within the private network group table.

20.(Amended) [An] The apparatus according to claim 19, wherein the data addresses are Internet Protocol (IP) addresses.

21.(Amended) [An] The apparatus according to claim 12 further comprising means for determining if the data unit is of a type requiring limited access, and means for enabling communication of the data unit from the first telephone station to the second telephone station if the data unit is not of [a] the type requiring limited access, even if the first and second telephone stations are not both members of the private network group.

22.(Amended) A private network comprising a data network, a plurality of apparatus coupled to the data network, and a plurality of sets of at least one telephone station which are arranged to maintain communication links with a respective one of the apparatus;

wherein each of the apparatus comprises means for grouping at least two of the plurality of telephone stations as members of a private network group; means for determining if a first telephone station that maintains a communication link of the communication links with [the particular] a first one of the plurality of apparatus and is sending a data unit, and a second telephone station that maintains a communication link of the communication links with a second one of the plurality of apparatus and is scheduled to receive [a] the data unit are both members of the private network group; and means for enabling communication of the data unit from the first

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telephone station, via the data network, to the second apparatus only if the first and second telephone stations are both members of the private network group.

23.(Amended) [A] The private network according to claim 22, wherein each of the telephone stations within the [plurality of groups] private network group has a corresponding node registration;

wherein the means for grouping at least two of the plurality of telephone stations as members of a private network group comprises means for listing the node registrations of the at least two telephone stations within a private network group table; and

wherein the means for determining if the first and second telephone stations are both members of the private network group comprises means for determining if the node registrations of the first and second telephone stations are both listed within the private network group table.

24.(Amended) [A] The private network according to claim 23, wherein first and second ones of the plurality of sets of at least one telephone station comprises first and second sets of mobile stations respectively that are located within respective first and second cell clusters, the first and second sets being coupled to the first and second ones of the plurality of apparatus;

wherein, within the first apparatus, the node registrations corresponding to the mobile stations of the first set are respective Home Location Registrations (HLRs) and the node registrations corresponding to the mobile stations of the second set are a data address corresponding to the second apparatus; and

wherein, within the second apparatus, the node registrations corresponding to the mobile stations of the second set are respective HLRs and the node registrations corresponding to the mobile stations of the first set are a data address corresponding to the first apparatus.

25.(Amended) [A] The private network according to claim 22, wherein the means for enabling communication of the data unit from the first telephone station to the second apparatus comprises

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means for attaching a header to the data unit, the header comprising a data address corresponding to the second apparatus as a destination address; and means for outputting [the] a resulting data unit to [the] a data network for routing.

26.(Amended) [A] The private network according to claim 22, wherein at least one of the plurality of apparatus is an intelligent peripheral coupled within a third generation wireless network.

27.(Amended) [A] The private network according to claim 22, wherein at least one of the plurality of apparatus is a server coupled to a Local Area Network (LAN).

28.(Amended) A wireless network comprising an apparatus, a radio network controller coupled to the apparatus, at least one base transceiver station coupled to the radio network controller, and a plurality of mobile stations [that are] each [arranged to maintain a] having a respective maintained communication link with one of the at least one base transceiver station;

wherein the apparatus comprises means for grouping at least two of the plurality of mobile stations as members of a private network group; means for determining if a first mobile station sending a data unit and a second mobile station scheduled to receive [a] the data unit are both members of the private network group; and means for enabling communication of the data unit from the first mobile station to the second mobile station through the respective maintained communication links of the first mobile and the second mobile station only if they are both members of the private network group.

29.(Amended) [A] The wireless network according to claim 28, wherein the radio network controller comprises means for adjusting a [the] bandwidth between each of the mobile stations and its respective one of the at least one base transceiver [stations] station.

30.(Amended) [A] The wireless network according to claim 28 further comprising a mobile switching center coupled between the apparatus and the radio network controller, the mobile switching center comprising means for controlling the switching operations of the wireless

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network within a predefined cell cluster.

31.(Amended) [A] The wireless network according to claim 28, wherein at least one of the mobile stations comprises a personal computer with a wireless modem.

32.(Amended) [A] The wireless network according to claim 28, wherein at least one of the mobile stations comprises an interface apparatus arranged to be coupled to a digital data processing component and arranged to maintain a communication link with one of the at least one base transceiver station, the interface apparatus comprising:

an interface port comprising means for receiving digital data in a first format from the digital data processing component, means for converting the digital data from the first format to a second format, and means for outputting the digital data in the second format;

a computing device, coupled to the interface port, comprising means for receiving the digital data in the second format from the interface port; means for attaching a data unit overhead including source and destination addresses to the received digital data in order to generate [a] the data unit, the source address being a predefined data address for the interface apparatus and the destination address being a stored data address; and means for outputting the data unit; and

a wireless network transceiver, coupled to the computing device, comprising means for receiving the data unit and means for transmitting it to the base transceiver station.

33.(Amended) [A] The interface apparatus according to claim 32, wherein the component interface port is a Universal Serial Bus (USB) port and the first format is a format required for transmitting the digital data over a USB cable.

34.(Amended) [A] The wireless network according to claim 28, wherein at least one of the plurality mobile stations comprises an interface apparatus arranged to be coupled to a digital data processing component and arranged to maintain a communication link with one of the at least one base transceiver station. the interface apparatus comprising:



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a wireless network transceiver comprising means for receiving [a] the data unit from the base transceiver station [that], with the data unit comprising[es] digital data in a first format and a data unit overhead including source and destination addresses, the destination address being a predefined data address for the interface apparatus, and means for outputting the data unit;

a computing device, coupled to the wireless network transceiver, comprising means for receiving the data unit from the wireless network transceiver, means for removing the data unit overhead from the data unit, and means for outputting the digital data in the first format; and

a component interface port, coupled to the computing device, comprising means for receiving the digital data in the first format, means for converting the received digital data from the first format to a second format, and means for outputting the digital data in the second format to the digital data processing component.

35.(Amended) [An] The interface apparatus according to claim 34, wherein the component interface port is a Universal Serial Bus (USB) port and the second format is a format required for transmitting the digital data over a USB cable.

[35] 36.(Amended) Within a network comprising a plurality of mobile stations that each [maintain a] have a respective maintained communication link with a respective base transceiver station, a method of enabling communication of a data unit from a first mobile station to a second mobile station, the method comprising:

grouping at least two of the plurality of mobile stations as members of a private network group;

determining if the first mobile station sending the data unit and the second mobile station scheduled to receive the data unit are both members of the private network group; and

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enabling communication of the data unit from the first mobile station to the second mobile station through the respective maintained communication links of the first mobile station and the second mobile station only if they are both members of the private network group.